

NASA Advisory Council
National Aeronautics and Space Administration
Washington, DC 20546

Dr. Steven W. Squyres, Chair

August 9, 2013

Mr. Charles F. Bolden, Jr.
Administrator
National Aeronautics and Space Administration
Washington, DC 20546

Dear Administrator Bolden:

The NASA Advisory Council held a very productive public meeting at NASA Headquarters, Washington, DC, July 31 – August 1, 2013.

As a result of its deliberations, the Council approved 11 recommendations and 19 findings. They are enclosed for your consideration. If you have any questions or wish to discuss further, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'S. Squyres', with a long horizontal line extending to the right.

Steven W. Squyres
Chairman

Enclosures

NASA Advisory Council Recommendation
Research Subcommittee of the
Human Exploration and Operations Committee
2013-02-01 (HEOC-01)

Name of Committee: Human Exploration and Operations Committee

Chair of Committee: Mr. Richard Kohrs

Date of Council Public Deliberation: July 31, 2013

Short Title of Recommendation: Research Subcommittee of the Human Exploration and Operations Committee

Recommendation: NASA should add commercial expertise to the already impressive membership of the Research Subcommittee of the Human Exploration and Operations (HEO) Committee. Specifically, the committee should receive input from research, development and commercialization leaders in one or more of the relevant industries (e.g., pharmaceutical, biological, materials science, etc.) that have experience in applied research.

Major Reasons for Proposing the Recommendation: The current subcommittee is populated by an impressive cadre of research leaders from academia but commercial opportunities for research in microgravity are also important, as evidenced by several projects that have been achieved to date. Further, such input would provide a valuable link to the activities of the Center for the Advancement of Science in Space (CASIS), which has relationships with the NASA Space Life and Physical Sciences (SLPS) program.

Consequences of No Action on the Proposed Recommendation: Subcommittee deliberations will reflect only the viewpoints and perspectives of academia, and therefore will not provide NASA with the broadest possible guidance from other important contributors to the research community.

NASA Advisory Council Recommendation

Priority and Schedule of Commercial Crew Development 2013-02-02 (HEOC-02)

Name of Committee: Human Exploration and Operations Committee

Chair of Committee: Mr. Richard Kohrs

Date of Council Public Deliberation: July 31, 2013

Short Title of Recommendation: Priority and Schedule of Commercial Crew Development

Recommendation: Timely establishment of a commercial capability to deliver U.S. astronauts to low earth orbit is essential to reduce undesirable reliance on a single non-U.S. provider, Soyuz. The Council is concerned that projected funding levels for commercial crew development may be insufficient to provide a safe and robust capability by the target date of 2017. NASA should develop and clearly articulate a plan for establishment of this capability that requires a demonstrated critical look at safety, and that addresses realistic funding levels, the contractor downselect process, and traceable milestones and target dates for initial operating capability. We request a briefing on this topic at the next NASA Advisory Council meeting.

Major Reasons for Proposing the Recommendation: Rapid establishment of U.S. commercial crew transportation to ISS is critically important to NASA's human space program. There has been a significant shortfall in Commercial Crew Program funding over the past three years, typically ~40% less than requested, and this shortfall may continue. Safely achieving the required capability on the desired schedule in such a funding environment will be challenging, and it is not clear to the Council that NASA has a self-consistent plan in place.

Consequences of No Action on the Proposed Recommendation: Increased risk to ISS due to dependency on a single source provider for crew transport to and from the ISS.

NASA Advisory Council Recommendation

Evaluate Best Practices for Science Education and Public Outreach 2013-02-03 (SC-01)

Name of Committee: Science Committee

Chair of Committee: Dr. David McComas

Date of Council Public Deliberation: July 31, 2013

Short Title of Recommendation: Evaluate Best Practices for Science Education and Public Outreach

Recommendation: The Council recommends that NASA analyze the relative effectiveness of science education and outreach efforts at NASA, measuring against Agency goals and objectives and correlating with key variables (e.g., cost, expertise, science input, and target audience). Where there are clear successes, identify a set of best practices, and use less successful efforts to indicate lessons learned; disseminate these results for the benefit of any Federal organization engaged in education and public outreach (EPO) activities.

Major Reasons for Proposing the Recommendation: The Administration has proposed consolidating EPO programs across Federal agencies and departments. To inform this process, it would be extremely valuable for NASA to mine data collected from decades of education and public outreach efforts, looking at metrics that reflect impact on the students and the public or that reflect other Agency goals and objectives. In particular, the direct involvement of scientists in Science Mission Directorate EPO activities has been extremely effective. The NASA EPO data are a valuable archive that could be exploited to the benefit of the nation, maximizing the value from limited Federal EPO dollars.

Consequences of No Action on the Proposed Recommendation: Government planning for a new EPO structure would proceed without the valuable information derived from past activities and archives of NASA and other STEM-active agencies, and the lessons learned from their previous EPO activities. This could potentially lead to waste and mismanagement of the nation's precious EPO resources.

NASA Advisory Council Recommendation

Participation of Planetary Protection Officer in Mission Planning and Design 2013-02-04 (SC-02)

Name of Committee: Science Committee

Chair of Committee: Dr. David McComas

Date of Council Public Deliberation: July 31, 2013

Short Title of Recommendation: Participation of Planetary Protection Officer in Mission Planning and Design

Recommendation: Planning and design of missions requiring implementation of planetary protection measures should be informed at the outset and through all mission stages by appropriate participation of the Planetary Protection Officer (i.e., a “seat at the table”).

Major Reasons for Proposing the Recommendation: Meeting planetary protection standards can impose significant design, technical, and cost requirements on missions that visit extraterrestrial environments with biological potential. It is a principle of NASA planning that the earliest possible identification and incorporation of requirements into mission planning, design and implementation is the approach that minimizes mission risk and best controls project costs. Therefore planetary protection requirements should be an integral part of mission planning and implementation from the outset. As noted in NASA Procedural Requirement 8020.12D, projects can benefit from communication with the Planetary Protection Officer during pre-project activities, including to obtain preliminary mission categorization. Planetary Protection Officer participation during pre-project phases can also inform the evaluation of preliminary mission design alternatives to comply with planetary protection requirements.

Consequences of No Action on the Proposed Recommendation: Later overlay of planetary protection measures and requirements can increase mission risk by requiring alterations at later mission stages, which are needlessly disruptive and costly.

NASA Advisory Council Recommendation

NASA Coordinate Government-Wide Effort to Create Common Asbestos Cost Estimate 2013-02-05 (AFAC-01)

Name of Committee: Audit, Finance and Analysis Committee

Chair of Committee: Mr. Robert Hanisee

Date of Council Public Deliberation: July 31, 2013

Short Title of Recommendation: NASA Coordinate Government-Wide Effort to Create Common Asbestos Cost Estimate

Recommendation: The Council recommends that NASA, through the CFO Council, coordinate a government-wide, collaborative effort to create common estimates and benchmarks by structure type that can then be used as a baseline for each agency as they create their own estimates for asbestos remediation (such benchmarks are lacking today). Such a government-wide collaborative effort should result in significant cost savings for the Agency (and for the government) and should lead to a satisfactory audit trail for NASA's external auditors. The participation of the Agency's Inspector General Office through the IG Council should be encouraged by the Administration.

Major Reasons for Proposing the Recommendation: The requirement to estimate unfunded environmental liability for asbestos remediation in all NASA facilities has been imposed by the Federal Financial Accounting Standards Board. Every Federal agency has had some requirement imposed upon them.

Consequences of No Action on the Proposed Recommendation: Each Federal agency will struggle to develop sound supportable estimates to comply with the standard, resulting in inconsistent methodology across agencies.

NASA Advisory Council Recommendation

Reduce Barriers to ISS Utilization, Including Intellectual Property Rights 2013-02-06 (CSC-01)

Name of Committee: Commercial Space Committee

Chair of Committee: Ms. Patti Grace Smith

Date of Council Public Deliberation: August 1, 2013

Short Title of Recommendation: Reduce Barriers to ISS Utilization, Including Intellectual Property Rights

Recommendation: The Council recommends that NASA explore reduction of barriers to ISS utilization, including Intellectual Property (IP) rights.

Major Reasons for Proposing the Recommendation: Non-NASA funded users of ISS must be able to retain their IP rights. The ability to retain their IP is critical to supporting research and promoting business opportunities.

Consequences of No Action of the Proposed Recommendation: ISS will be unattractive to universities, private industry, including pharmaceutical companies; and research institutions, thereby limiting utilization.

NASA Advisory Council Recommendation

Coordination of Education and Public Outreach Activities 2013-02-07 (EPOC-01)

Name of Committee: Education and Public Outreach Committee

Chair of Committee: Mr. Lars Perkins

Date of Council Public Deliberation: August 1, 2013

Short Title of Recommendation: Coordination of Education and Public Outreach Activities

Recommendation: NASA should learn from the approval process begun during sequestration and develop a new process for dispositioning requests to conduct Education and Public Outreach (EPO) activities that efficiently coordinates with missions, aligns EPO programs with NASA goals, and is cost-effective.

Major Reasons for Proposing the Recommendation: Fragmented or non-aligned EPO activities dilute the effectiveness and reach of these programs, and undermine NASA's overall strategic EPO objectives.

Consequences of No Action on the Proposed Recommendation: Continuing development of duplicative and potentially inefficient EPO programs that are not aligned with the Agency's strategic priorities make the cost-benefits harder to evaluate and defend.

NASA Advisory Council Recommendation

Use of Mission Directorate Education and Public Outreach Resources 2013-02-08 (EPOC-02)

Name of Committee: Education and Public Outreach Committee

Chair of Committee: Mr. Lars Perkins

Date of Council Public Deliberation: August 1, 2013

Short Title of Recommendation: Use of Mission Directorate Education and Public Outreach Resources

Recommendation: To the extent that missions have funding for Education and Public Outreach (EPO) activities, they should coordinate with Mission Directorates' EPO and utilize the most cost effective resources to accomplish such activities, be they inside NASA or out.

Major Reasons for Proposing the Recommendation: Missions and their parent Mission Directorates often create EPO capabilities and products that overlap. While this diversity can be a plus, it can also be less cost-effective and produce EPO products and activities that are not consistent with overall Mission Directorate and NASA objectives.

Consequences of No Action on the Proposed Recommendation: Duplicative and potentially inefficient EPO programs are developed that fail to leverage best practices and past lessons learned, leading to higher costs, and confusing public messaging.

NASA Advisory Council Recommendation

Citizen Engagement 2013-02-09 (EPOC-03)

Name of Committee: Education and Public Outreach

Chair of Committee: Mr. Lars Perkins

Date of Council Public Deliberation: August 1, 2013

Short Title of Recommendation: Citizen Engagement

Recommendation: NASA plays a unique role in the inspiration and education of the public about programs in space, and has a stellar track record in this area. While the Council acknowledges that efficiencies may be gained through consolidation, the Council remains concerned with the proposed transfer of responsibility for outreach associated with NASA space missions to agencies and organizations with no spaceflight experience. NASA should ensure that funding remains in place for public outreach associated with NASA's missions.

Major Reasons for Proposing the Recommendation: NASA, by virtue of its missions, currently plays a unique role in engaging the public in space exploration and exposing them to science and technology. These activities take place outside of the Science, Technology, Engineering and Math (STEM) activities which are being consolidated under the FY 2014 reorganization.

Consequences of No Action on the Proposed Recommendation: A unique and important capability to engage and inspire the public outside of the traditional education system will be lost.

NASA Advisory Council Recommendation

Commitment to Sustain and Grow NASA Space Technology Programs 2013-02-10 (TIC-01)

Name of Committee: Technology and Innovation Committee

Chair of Committee: Dr. William Ballhaus (*presented by Vice Chair, Dr. Matt Mountain*)

Date of Council Public Deliberation: August 1, 2013

Short Title of Recommendation: Commitment to Sustain and Grow NASA Space Technology Programs

Recommendation: The Council recommends that NASA continue its commitment to sustain and grow the Agency's space technology programs to enable future NASA missions and to maintain U.S. technical leadership in space.

Major Reasons for Proposing the Recommendation: The missions we want to fly tomorrow will be enabled by technology investments made today. The NASA technology shelf has been depleted over the last decade due to a lack of investment. NASA has begun to correct this over the last three years with the formation of the Office of Chief Technologist (OCT) and the Space Technology Mission Directorate (STMD). This has been supported by senior government decision-makers in the Agency and within the Administration. We believe sequestration poses a major threat to the vitality of NASA's space technology programs.

Consequences of No Action on the Proposed Recommendation: The combination of the consolidation of the Agency's Small Business Innovation Research (SBIR) activities in STMD, coupled with across the board reductions, could result in a disproportionate cut in the STMD's discretionary technology program. In order to accommodate budget reductions, STMD would be forced to reduce its key technology demonstration missions in support of the Agency's priorities.

NASA Advisory Council Recommendation

NASA Information Technology Governance Document 2013-02-11 (ITIC-01)

Name of Committee: Information Technology Infrastructure Committee

Chair of Committee: Dr. Larry Smarr

Date of Council Public Deliberation: August 1, 2013

Short Title of Recommendation: NASA Information Technology Governance Document

Recommendation: NASA should produce a clear and concise Information Technology (IT) governance document, including documented processes, policies, and organization roles and responsibilities. The framework should incorporate leading IT governance methods.

Major Reasons for Proposing the Recommendation:

- Clarifies expectations and roles of the Chief Information Officer (CIO) with buy-in from the Mission Directorates.
- Provides clear corporate responsibilities for the growing role of IT in mission development and success.
- Administration guidance is shifting: focus on oversight of IT projects and procurement of commodity IT software, equipment, and services to be applied across the Agency.

Consequences of No Action on the Recommendation:

- NASA continues to be criticized from oversight organizations in the Administration and Congress.
- Development of “highly specialized Mission IT” will miss opportunities to leverage from NASA-wide IT developments.

NASA Advisory Council Finding

Exploration Systems Directorate – Systems Engineering and Integration Management

Name of Committee: Human Exploration and Operations Committee

Chair of Committee: Mr. Richard Kohrs

Date of Council Public Deliberation: July 31, 2013

Short Title of Finding: Exploration Systems Directorate – Systems Engineering and Integration Management

Finding: The NAC Human Exploration and Operations (HEO) Committee was briefed on the Exploration Systems Directorate status and schedule. The Council commends the Systems Engineering and Integration Management team's progress in the schedule, cost and management of the Integrated Task. Future reviews on this subject by the HEO Committee should continue. Major program issues that are currently being evaluated by the Integration Team should be updated and reviewed by the HEO Committee.

NASA Advisory Council Finding

Demonstrate and Articulate the Justification and Strategy for NASA's New Asteroid Initiative

Name of Committee: Human Exploration and Operations Committee

Chair of Committee: Mr. Richard Kohrs

Date of Council Public Deliberation: July 31, 2013

Short Title of Finding: Demonstrate and Articulate the Justification and Strategy for NASA's New Asteroid Initiative

Finding: During the last Council meeting, the Council recommended that NASA clearly demonstrate and articulate a strategy for the Agency's new Asteroid Initiative and highlight associated benefits to the public. NASA responded by sending the Council a summary of the Asteroid Initiative. The Council acknowledges and appreciates the NASA response to our recommendation. We wish to extend the recommendation to add that NASA should work to reflect current priorities and planning for the Asteroid Initiative via internal and external communications. In particular, NASA should immediately update the NASA Website to reflect current planning (including the necessary steps to progress from current capabilities to those needed for successful human Mars exploration), priorities and technical plans and accomplishments such as those summarized by the Space Technology Mission Directorate.

NASA Advisory Council Finding
NASA 2014 Strategic Plan Development

Name of Committee: Science Committee

Chair of Committee: Dr. David McComas

Date of Council Public Deliberation: July 31, 2013

Short Title of Finding: NASA 2014 Strategic Plan Development

Finding: The Government Performance and Results Act Modernization Act (GPRAMA) of 2010 introduced new requirements that are driving the 2014 planning process. Based on a highly informative briefing from J. Pollitt, the Council finds that the planned reporting strategy is problematic. Each of the four Science Mission Directorate (SMD) science objectives spans multiple Agency goals, and should not have to be attributed to a single goal. If an objective must be attributed to a single goal, it should be attributed to the goal that best represents the majority of the work in that area. A troubling example is the developing plan to attribute the Heliophysics science objective to the Agency “of Earth” goal while the bulk of the Heliospheric strategic elements is aligned with the Agency “of Science” goal, just as it is for Astrophysics and Planetary Science.

NASA Advisory Council Finding

High Value of Extended Missions

Name of Committee: Science Committee

Chair of Committee: Dr. David McComas

Date of Council Public Deliberation: July 31, 2013

Short Title of Finding: High Value of Extended Missions

Finding: In a constrained budget environment, one option discussed for budget reduction is to terminate operating missions. The Council finds that many of the missions currently in extended phase provide some of the best science per cost in the Science Mission Directorate (SMD). While the successful planning, building, launching and commissioning of spacecraft constitutes a remarkable technical feat, the motivation for and end goal of these eyes, ears and hands in space is the science that results from data collected by these missions. Level 1 science requirements are developed during the period of formulation and implementation consistent with goals of Decadal Surveys and SMD Mission Roadmaps. Level 1 science requirements are the set that a mission must satisfy in order to achieve its pre-launch objectives. By nature, missions are conservative in their science goals and engineering limits as proposed, yet the history of NASA SMD missions shows over and over that extended mission data collection leads to science advances equaling or exceeding that of the primary mission. It is imperative that active spacecraft returning high quality data be funded into extended missions consistent with evaluation of NASA senior reviews. This strategy capitalizes on investments in mission hardware at affordable costs that result in new science, workforce development, and engaging and inspiring the next generation of explorers.

NASA Advisory Council Finding

COTS is a Good Example of Public/Private Partnerships

Name of Committee: Commercial Space Committee

Chair of Committee: Ms. Patti Grace Smith

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: COTS is a Good Example of Public/Private Partnerships

Finding: NASA's Commercial Orbital Transportation Services (COTS) yielded significant benefits for both NASA and the nation.

- It developed two lower cost launch systems and spacecraft for about an \$800M investment for both International Space Station (ISS) cargo and other medium payload launch capabilities.
- COTS/Commercial Resupply Services (CRS) provides the potential to revitalize the commercial launch industry and recapture the U.S. share of commercial launches.
- Including well defined scope of potential service contracts up front creates confidence and provides risk reduction for investors.
- Based on the positive COTS experience to date, NASA should decide whether to employ follow-on contracts after 2015.
- Resist requirements creep during operations phase to maintain the low-cost characteristic of the systems.

NASA Advisory Council Finding

Extension of International Space Station Beyond 2020

Name of Committee: Commercial Space Committee

Chair of Committee: Ms. Patti Grace Smith

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: Extension of International Space Station
Beyond 2020

Finding: The Council supports the extension of the International Space Station (ISS) for critical research in areas of materials processing, space environment and medicine, particularly to exploit the outreach to pharmaceutical companies. In order for the ISS to be fully utilized for projects requiring longer lead time, NASA must provide sufficient opportunity for research and commercial activity. Ample time is required to support return on investment (ROI) for closing the business case.

NASA Advisory Council Finding

Budget for Larger Prizes

Name of Committee: Commercial Space Committee

Chair of Committee: Ms. Patti Grace Smith

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: Budget for Larger Prizes

Finding: The Council applauds NASA's smart and aggressive approach to the use of prizes and crowdsourcing. NASA should look for ways to budget at least one larger prize over the next three years. Breakthrough results from prize competition often result from larger prize values. NASA has been effectively using prizes for a number of years but has yet to budget to the level required for large, "game changing" results.

NASA Advisory Council Finding

Commercial Market Study Validation; Public/Private Partnerships Study

Name of Committee: Commercial Space Committee

Chair of Committee: Ms. Patti Grace Smith

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: Commercial Market Study Validation;
Public/Private Partnerships Study

Finding: The Council supports the great work done by the internal NASA group that conducted the “Commercial Market Study” and finds that the product will benefit from validation by an independent private sector review.

- The collection and presentation of data shows significant market opportunities across areas important to NASA.
- As this was an internal effort, it could benefit from external validation.

NASA Advisory Council Finding

Digital Media Rationalization

Name of Committee: Education and Public Outreach Committee

Chair of Committee: Mr. Lars Perkins

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: Digital Media Rationalization

Finding: NASA's digital multimedia products are not well coordinated among the Mission Directorates, organized consistently for public access, and consistent in supporting NASA's overall strategic vision. The Communications Coordinating Council (CCC) Digital Media Subgroup is on the right path and should work closely with the new Chief Information Officer (CIO) to develop a digital media strategy which produces media products that are coordinated, necessary to support NASA's overall vision, and secure. As an example, NASA runs over 1,800 websites (by some estimates ~60% of all websites run by the government). They are not all integrated into the NASA.GOV infrastructure, and some are insecure (security breaches have occurred). There is little or no coordination of these sites at the Headquarters level, and may be obsolete and therefore incur an unnecessary operational cost burden. They also perpetuate public confusion about NASA's overall mission.

NASA Advisory Council Finding

NASA Website Redesign

Name of Committee: Education and Public Outreach Committee

Chair of Committee: Mr. Lars Perkins

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: NASA Website Redesign

Finding: The Council finds that the Office of Communications' recent redesign of the NASA.GOV website, while not complete, addresses many concerns the Council has had regarding usability and information organization. We believe the Office of Communications should be recognized for the excellent progress it has made, and we look forward to the continuing improvement of NASA's web presence. Despite its popularity, the prior version of NASA.GOV did not utilize evolving best practices in web design. Propriety video formats, inability to search social media sources and other relevant content not hosted on the site, scattering of videos across many different sites and accounts, confusing information organization and a dated color palette detracted from the overall quality of the web experience.

NASA Advisory Council Finding

Innovative Partnering and Contracting Models

Name of Committee: Technology and Innovation Committee

Chair of Committee: Dr. William Ballhaus (*presented by Vice Chair, Dr. Matt Mountain*)

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: Innovative Partnering and Contracting Models

Finding: Industry may not be pursuing advanced technology in its Commercial Crew programs, however, NASA and industry are using innovative partnering and contracting models (Space Act Agreements and streamlined requirements from NASA). The Agency would benefit by further exploring this acquisition approach to streamlining requirements in active dialogue with industry.

NASA Advisory Council Finding

NASA Aeronautics Program Under Severe Budget Pressures

Name of Committee: Technology and Innovation Committee

Chair of Committee: Dr. William Ballhaus (*presented by Vice Chair, Dr. Matt Mountain*)

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: NASA Aeronautics Program Under Severe Budget Pressures

Finding: For more than a decade, the NASA Aeronautics program has been under severe budget pressures, shrinking from over \$1B to roughly \$560M annually. U.S. aviation leadership is vital to our nation's economic future. NASA has historically played a leading role in preserving U.S. aviation leadership. It appears that NASA Aeronautics is no longer significantly investing in several traditional research and technology areas, such as supersonics, hypersonics, flight research and general aviation.

NASA Advisory Council Finding

NASA Basic Research (Engineering Science) Program

Name of Committee: Technology and Innovation Committee

Chair of Committee: Dr. William Ballhaus (*presented by Vice Chair, Dr. Matt Mountain*)

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: NASA Basic Research (Engineering Science) Program

Finding: The Council reasserts its previous recommendation on the importance of fundamental aerospace engineering science. We look forward to hearing an update from the Agency on this recommendation.

NASA Advisory Council Finding

NAC Technology and Innovation Committee Management Move

Name of Committee: Technology and Innovation Committee

Chair of Committee: Dr. William Ballhaus (*presented by Vice Chair, Dr. Matt Mountain*)

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: NAC Technology and Innovation Committee Management Move

Finding: The NAC Technology and Innovation Committee management is moving from the cognizance of the Space Technology Mission Directorate (STMD) to that of the Office of Chief Technologist (OCT) beginning at the next meeting. Katie Gallagher (OCT) will provide support in the future. The Committee would like to thank Mike Green, Executive Secretary for the past three years, and Anyah Dembling, Executive Assistant, for all their help and efforts at managing the Committee activities, including our meetings. Also, the Committee wishes to thank STMD Associate Administrator Mike Gazarik for STMD's support as well.

NASA Advisory Council Finding

U.S. Government New Guidance and Directives on Open Data

Name of Committee: Information Technology Infrastructure Committee

Chair of Committee: Dr. Larry Smarr

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: U.S. Government New Guidance and Directives on Open Data

Finding: The U.S. Government has issued several new guidance and directives on open data:

- Office of Science and Technology Policy (OSTP), February 22, 2013: Increasing Access to the Results of Federally Funded Scientific Research
- OSTP, March 29, 2013: Big Data is a Big Deal
- Presidential Executive Order, May 9, 2013: Open Data Policy – Managing Information as an Asset

NASA Advisory Council Finding

ARMD Continued Investment in Rotary Wing Research

Name of Committee: Aeronautics Committee

Chair of Committee: Ms. Marion Blakey

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: ARMD Continued Investment in Rotary Wing Research

Finding: Other countries, notably the European nations, Russia, China, and Korea, are funding advanced rotorcraft research. Europe in particular has made a strong effort to dominate this market, and they have succeeded with European companies ranking #1 and #2 in the U.S. civil rotorcraft market, while the top U.S. company is #3 in the civil market. Specifically, Europe is leading with the development of the first civil tilt-rotor vehicle, and more generally, they have made a strong push to improve helicopter performance (e.g., speed, range and payload) and environmental performance (noise in particular). As other countries continue to invest strongly in rotary-wing research, it is anticipated that U.S. market share will continue to decline in both the civil and military markets. The Council fully supports the Aeronautics Research Mission Directorate (ARMD) continued investment in rotary wing research and efforts to align their research with those technologies deemed crucial to regaining U.S. leadership in this area of aeronautics.

NASA Advisory Council Finding

ARMD Continued Investment in Hypersonics Research

Name of Committee: Aeronautics Committee

Chair of Committee: Ms. Marion Blakey

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: ARMD Continued Investment in Hypersonics Research

Finding: The Council fully supports the Aeronautics Research Mission Directorate (ARMD) continued investment in hypersonics research and efforts to align their research with those technologies deemed crucial to sustaining U.S. leadership in this area of aeronautics. NASA's investment in hypersonics should be strategically coordinated/aligned with the Department of Defense's, given the potentially expensive nature of the research and the limited resource environment for the foreseeable future.

NASA Advisory Council Finding

Next Phase of the Unmanned Aircraft Systems in the National Airspace System Project

Name of Committee: Aeronautics Committee

Chair of Committee: Ms. Marion Blakey

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: Next Phase of the Unmanned Aircraft Systems in
the National Airspace System Project

Finding: The Council strongly supports the Unmanned Aircraft Systems (UAS) in the National Airspace System (NAS) project and proceeding with the next phase of the project. We believe that the project has evolved to consider key stakeholder concerns, including those put forward by the NAC UAS Subcommittee. The Council endorses the work of the Subcommittee in prioritizing the project Technical Work Packages that are key to success, and which might be slightly de-emphasized as program planning evolves.

NASA Advisory Council Finding
Small Unmanned Aircraft Systems
in the National Airspace System Project

Name of Committee: Aeronautics Committee

Chair of Committee: Ms. Marion Blakey

Date of Council Public Deliberation: August 1, 2013

Short Title of Finding: Small Unmanned Aircraft Systems in the National Airspace System Project

Finding: The Council believes it is important that future Aeronautics Research Mission Directorate (ARMD) efforts in unmanned systems include technologies and operational performance standards that have the broadest applicability to all classes of unmanned aircraft systems (UAS). The Council feels that the current UAS in the National Airspace System (NAS) project largely excludes certain classes such as “small UAS” (typically defined as less than 55 pounds), a segment that may have the largest near-term economic impact. Examples of technology specifically applicable to Small UAS include those that will enable beyond-line-of-sight and other non-visual flight rules (VFR) operations.